

AGILE

RESPONSIVE

LETHAL

VERSATILE

SURVIVABLE

DEPLOYABLE

SUSTAINABLE

# COMBATT



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## COMMERCIALLY BASED TACTICAL TRUCK

One of the most innovative approaches, supported by the National Automotive Center (NAC), is to adapt a modified commercial pick-up truck to perform some of the missions now assigned to the HMMWV.

The Army has developed and fielded the finest Light Tactical Wheeled Vehicle (LTWV) in the world, the High Mobility Multipurpose Wheeled Vehicle or HMMWV. Designed in the early 1980's, the HMMWV has been in continuous production ever since. With many vehicles now approaching 20 years of age, a fleet update is necessary.

If successful, modifications to a commercial pick-up truck could:

- Leverage commercial technology to fulfill military mission needs
- Take advantage of high volume commercial production lines
- Reduce overall design and development costs
- Reduce cost of spares via commercial distribution
- Incorporate innovative procurement concepts such as fleet leasing and contractor logistical support
- Provide continuous improvement via automotive technology evolution at no cost to the Army

This new approach to Light Tactical Wheeled Vehicles is called Commercially Based Tactical Truck or COMBATT. The NAC, along with its partners Veridian-Engineering, AM General Corporation, DaimlerChrysler, AG, and Ford Motor Company have up-fitted three vehicles with the latest in automotive technology. These were at the SAE 2000 Exhibition in Detroit, and have since been displayed at events across the country.

COMBATT is a sharp departure from the classic use of Commercial-Off-The-Shelf (COTS) equipment. Both the Dodge 2500/3500 and Ford F-350 vehicles used for the COMBATT program have modifications to improve their off-road mobility and payload capacity.

These modifications include:

- Dana Hydra-Lok differentials
- Dana Central Tire Inflation System (CITS)
- Goodyear 37" 12.50R17 MT/R tires
- Hutchinson run flat inserts
- A 12/24v electrical system
- Bilstein variable damping shock absorbers
- Eaton Vorad Collision Warning System
- Lockheed Martin Night Vision System
- Firestone adjustable air-helper springs
- A computer/flat panel display to coordinate and control the systems

COMBATT is expected to reduce the cost of developing and procuring a new LTWV. However, the majority of the cost savings will come from a drastic reduction in the cost of ownership. The principle of turn-key fleet management can be applied. The vehicles could be leased for a 3-4 year period. Lease costs are minimized because of the relatively high residual value of the vehicles. There should be an eager market of customers who need truly off-road, severe duty vehicles such as logging and mining companies, rural fire fighters, and foreign countries that do not have highly developed highway systems.

Further savings will be realized from the use of Contractor Logistics Support (CLS). During peacetime, the Army will no longer have to stock spare parts, purchase repair manuals, or train mechanics. Additionally, very little driver training will be required because of the general familiarity with the commercial vehicles. The Army estimates that these ongoing "Operations and Support (O&S)" costs can amount to several times the purchase price of a piece of equipment.

The COMBATT demonstration program has proven the concept of up-fitting a commercial pick-up truck to fulfill a military mission. The Army is now considering the next step.

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